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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,755	01/23/2004	Elias Jonsson	040072-266	7623
42015	7590	04/16/2007	EXAMINER	
POTOMAC PATENT GROUP, PLLC			HA, DAC V	
P. O. BOX 270			ART UNIT	PAPER NUMBER
FREDERICKSBURG, VA 22404			2611	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/16/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/763,755	JONSSON ET AL.
	Examiner Dac V. Ha	Art Unit 2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 23 January 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-41 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1-9 is/are allowed.  
 6) Claim(s) 10,30-34,40 and 41 is/are rejected.  
 7) Claim(s) 11-29 and 35-39 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 23 January 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 10, 30, 40, 41** are rejected under 35 U.S.C. 102(e) as being anticipated by Wilhelmsson et al. (EP 1 343 285 A1) (hereafter Wilhelmsson).

**Regarding claim 10**, Wilhelmsson discloses all claimed subject matter “determining a decision boundary for a respective channelization code using the received symbols and at least one decision boundary estimate determined for another channelization code” in para. 2, 6-8, 58-66).

**Regarding claim 40**, see claim 10 above.

**Regarding claim 30**, Wilhelmsson further discloses “soft bit value estimates” in para. 61.

**Regarding claim 41**, see claim 30.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 31-34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilhelmsson in view of Bottomley et al. (WO 01/01594 A) (hereafter Bottomley).

**Regarding claim 31**, see claim 10 above. Wilhelmsson differs from the claimed invention in that Wilhelmsson does not teach “updating the decision boundary ... a history of the variable  $d_{\Sigma}^{(n)}$ ”. However, Bottomley discloses that such claimed subject matter is known in the art in page 19, lines 11-29. Thus, it would have been obvious to one skilled in the art at the time of the invention to incorporate such teaching from Bottomley into Wilhelmsson to obtain a statistics over a long interval so as to provide a more accurate estimate.

**Regarding claims 32-34**, these claimed subject matter would have been obvious based on the aforementioned combination.

#### ***Allowable Subject Matter***

5. Claims 1-9 are allowed.

6. Claims 11-29, 35-39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jeong (US 6,907,084) discloses Method And Apparatus For Processing Modulation Symbols For Soft Input Decoders.

Dorney et al. (US 6,789,225) discloses Bit Error Position Estimation In Data Decoder.

Malm et al. (US 204/0264591 A1) discloses Method And System For M-QAM Detection In Communication Systems.

Wang (US 2004/0258173 A1) discloses M-Ary Phase Shift Keying (PSK) Bit-Boundary Turbo Coded System.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Dac V. Ha". The signature is fluid and cursive, with a long horizontal line extending to the right at the end.

Dac V. Ha  
Primary Examiner  
Art Unit 2611